Leonard Transportation Center
CAL STATE SAN BERNARDINO

ANNUAL REPORT

2009

Decision Making and Management of Transportation Systems

Decision Making and Management of Transportation Systems

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Leonard Transportation Center
CAL STATE SAN BERNARDINO

William and Barbara Leonard Transportation Center

FY 2009-2010 Annual Report
California State University, San Bernardino

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Leonard Transportation Center
CAL STATE SAN BERNARDINO

Message from the Director:

The Leonard Transportation Center at Cal State San Bernardino has wrapped up its most productive year since the Center's inception in 2006. I am proud to recognize the breakthrough in the Center's focus areas: research, education, technology transfer and outreach.

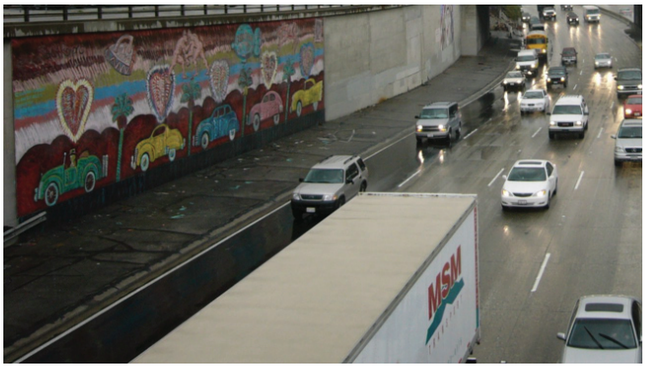
This past year we have reached out to a record number of audiences with three major conferences, kicked off a new undergraduate transportation and supply chain management curriculum, supported 18 research projects at 9 of the 23 Cal State campuses, and set in motion the initiatives to be a champion in digital technology within the field of transportation. These programs and achievements are consistent with the Center's focus on management and decision making in transportation systems and are explained in detail below:

- The Fourth Annual Leonard Transportation Center Forum on Regional Transportation Planning in the Context of Air Quality, Environmental Sustainability, Livable Communities, and Economic Development held on May 14, 2010, brought together a full slate of movers and shakers in Southern California in a large round table format to discuss this very important issue that would affect millions of residents in Southern California and nationwide. The meeting drew in over 100 policy makers, transportation planners, educators, and other professionals.
- The Center renamed the Annual Transportation Research Conference on November 6, 2009 to honor Center donor Jack R. Widmeyer. The conference will now be known as the Annual Jack R. Widmeyer Transportation Research Conference. The November Conference welcomed CSU faculty and student researchers who presented research findings from the funding received from the Center. Representatives from Caltrans, SANBAG and Omnitrans were also on hand to interact with the attendees and presenters. The Center was fortunate enough to co-host an Educational Symposium with Omnitrans and Cooper Cary which was held concurrently to discuss intermodal transit stations, transit villages and trans-oriented design. This symposium was titled "Going to San BernardinO?"
- We hosted the 2010 Southern California Transportation and Logistics Summit with major support from the County of San Bernardino, the California Trucking Association and the Distribution Management Association. This event was the largest of its kind in Southern California and drew in more than 400 participants. This Summit targeted the local transportation, distribution, and logistics service companies, the commercial users of the transportation systems.
- We participated as Educational Partners in a number of regional meetings including the I-10 Corridor Conference, the SCAG Annual Meetings, the CTA Chapter Meetings, and the Four Corners Transportation & Economic Summit. Our goal is to support regional organizations with their endeavors and help them in digitizing and disseminating their presentations and speeches. These partnerships will enrich the contents of our planned launch of an iTunes U store.
- Our Speaker Series on transportation and logistics continued its third year on campus. Tom Vanderbilt, author of the best-selling book Traffic: Why We Drive the Way We Do (And What it Says About Us) was the featured speaker at the Student Union on October 20, 2009. His two presentations entitled "Objects in the Mirror Are More Complicated than They Appear" shed insight on traffic, traffic patterns, and human behaviors and drew a large audience

from the local community.

- The Center is pleased to have approved more than half a million dollars for the attainment of research projects in 2009-10. The awarded faculty came from 9 different CSU campuses, including as far north as San Francisco State University. Last year, our funded researchers published a total of five articles and presentations. A list of awarded projects and their brief descriptions can be found on pages 19 - 25.
- With continued investment in faculty at Cal Poly Pomona, Cal Poly San Luis Obispo, and other CSU campuses to further research in transportation, the Center has been able to create a loosely affiliated network of transportation experts, which will serve as the launch pad for a future organization of transportation faculty supported by the CSU Chancellor's Office.
- The Center has worked very closely with the faculty at the Department of Information and Decision Sciences at Cal State San Bernardino to revise and strengthen the transportation and supply chain curriculum. The new undergraduate curriculum combines the two existing majors in transportation and logistics into a new major with a more streamlined course structure and updated course contents. The new curriculum has also been approved by the American Society of Transportation and Logistics for students to receive a Certificate in Transportation and Logistics upon graduation and successful completion of all course requirements.
- We have moved forward with a driving simulator-based driver training and driving behavior research program with the National Advanced Driving Simulator at University of Iowa. After a focus group meeting and several follow up meetings and visits with local commercial carriers, insurance companies, driver training program operators, and other professionals, we have decided that the establishment of driving simulators on campus would allow us to provide driver safety and fuel efficiency training programs while studying driver behaviors under various California driving scenarios. We have secured a physical room in the new Education building on campus and will have the first batch of driving simulators installed in the fall of 2010.
- We have begun to digitize all of our research projects, conference speeches and presentations, and a select number of transportation articles to be download ready for the launch of the Center's iTunes U in the fall of 2010. The idea is to make research results easier to understand and more readily accessible to people via ADA-compliant popular MP3 and MP4 file formats.
- We have started to explore opportunities in certificate training so we can effectively transfer knowledge and train the next generation of transportation professionals. The two programs, sustainable transportation and supply chain, and management training for transportation professionals, are already underway. We hope to start recruiting students beginning in the fall of 2010.

Looking back, we have done a lot in the past year, accomplishing everything we said we were going to accomplish and more. Looking ahead, we continue to strengthen our programs and add new initiatives so we can help improve decision making and management in transportation systems. We are confident that we can meet the next challenges with the new staff on a solid foundation built with past achievements.



Theme and Vision

The theme of this center is Decision-Making and Management of Transportation Systems. It reflects the commitment to confer local, state, and federal transportation providers with increased capability for improved transportation decisions, while also imparting a methodology to better manage transportation systems and transportation investments through focused research and increased educational opportunities.

The Inland Empire is one of the fastest growing areas of the country, consisting primarily of Riverside and San Bernardino counties — the two largest counties in the country. With a combined population of 4 million people, the area is experiencing severe transportation challenges. In addition to dealing with rapid population and job growth, Southern California and in particular the Inland Empire must deal with the rapidly expanding growth of port-related cargo that traverses the area. More than two thirds of the total volume of containers imported through the Ports of Los Angeles and Long Beach (40% of all container movements in the United States) leave Southern California to be consumed in other states. The air pollution, congestion, maintenance and capacity impacts on the area's transportation system are profound. On the positive side, the logistics industry is providing many new jobs in the Inland Empire and Southern California.

Considerable transportation infrastructure is under construction with project management provided by a combination of agencies, most particularly the California Department of Transportation (Caltrans) and in the Inland Empire Regional Transportation Agencies such as the San Bernardino Associated Governments (SANBAG) and the Riverside County Transportation Commission (RCTC). Funding for such projects comes from state and federal funding allocations (including portions of the state and federal gas tax) and increasingly from a local county ½ cent sales tax imposed by the voters in both counties. There are seven bus transit agencies operating in the Inland Empire and a commuter rail system (Metrolink) which is operated by a five county joint powers agency.

In this context the Inland Empire is an ideal laboratory for the Leonard Transportation Center to build upon its educational resources in transportation and to study and analyze the processes of decision-making and management of transportation systems.

Decision-making: The present mix of decision-making authority among the key institutions, including Caltrans, California Transportation Commission (CTC), Southern California Association of Governments (SCAG), the Metropolitan Planning Organization for all of Southern California, the Regional Authorities RCTC, SANBAG, Orange County Transportation Commission (OCTC) and the Los Angeles Metropolitan Transportation Commission (Metro) and the public transit agencies is not always clear. Resolution of goods movement issues is also evasive, because decisions made by private sector users (such as the shippers and railroads) have a critical impact on the efficiency of the public transportation system. There is not an adequate institution encompassing all relevant public and private interests that acts as a focal point for negotiation and decision-making. In addition, various state and federal planning, funding and operational regulations, and legislation

and complexity and often confusion.

For all of these reasons a focus on transportation decision-making with emphasis on documenting present shortcomings and making suggestion for changes is a priority, not only for the Inland Empire, but in all likelihood for most other urban and urbanizing areas throughout the country.

Management: With declining transportation resources the efficient management of the transportation system and transportation construction projects becomes even more critical. New wireless information sensors and systems such as GIS (Geographic Information Systems) and GPS (Global Positioning Systems) could be used to a greater extent to manage transportation facilities and operations. Accelerated design and construction concepts, such as design-sequencing and stakeholder agencies and companies to make use of this information is essential. design-build, have often met resistance. Operational issues, such as security, routing, congestion and air pollution concerning the flow of goods after leaving the air and sea ports are becoming more critical. The role and impact of public transit merits attention as a possible way to reduce congestion. Time-of-day priced toll lanes have shown promise to increase traffic through-put and other market-based management tools may be appropriate.

With transportation employment increasing in Southern California, developing more undergraduate and graduate educational opportunities is imperative. Research in various aspects of transportation decision-making and management is clearly needed, and equally an aggressive program to increase the ability of the stakeholder agencies and companies to make use of this information is essential.

Though the Inland Empire is our natural laboratory, the issues we address affect many other parts of the state and nation. The Leonard Transportation Center addresses (Decision-Making and Management of Transportation Systems) from a local, regional, state and national perspective.

California State University, San Bernardino

Structure

Advisory Board

John Wu
Director

G.C. "Rusty" Thornton
Program Manager

Casey Cavello
Admin. Assistant

Tiffany Turner
Student Assistant

Jake Reece
Student Assistant

Center Personnel

Dr. Haw-Jan "John" Wu joins CSU San Bernardino as Director of Leonard Transportation Center in 2008 from CSU Monterey Bay where he has been a tenured professor of Operations Management and Marketing since 2002. He had previously taught at Whittier College and Penn State for 12 years. Dr. Wu specializes in operational efficiency, supply chain intergration, outsourcing, and Asian management styles. Dr. Wu has background and rich experiences in international business, including, most recently, a position as Resident Director in China for the CSU International Programs.

Casey Cavello orginally from northeastern Pennsylvania, moved to California to attend CSU Long Beach. She received her BA in Journalism from CSULB in May 2008. Casey joined the Leonard Transportation Center in February 2009 as an Administrative Assistant.

Tiffany Turner is a junior at Cal State San Bernardino pursuing a BA and teaching credential in Liberal Studies. Tiffany is an active member of the Cancer Awareness Club and Teaching Club. She is currently working on starting CSUSB's first College Rotary Club. She joined the Leonard Transportation Center June of 2009 as a student assistant and is responsible for the processing of all grants.

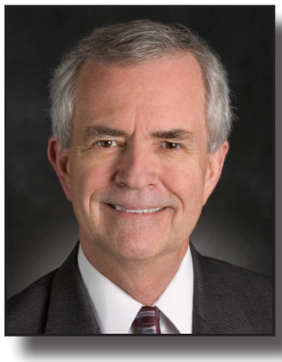
G.C. "Rusty" Thornton joined Cal State San Bernardino after 24 years at the California Department of Transportation (Caltrans), most recently as associate transportation planner with District 8 in San Bernardino. His experience at Caltrans includes highway maintenance, program and project management, State and Local highway maintenance, and transportation planning. He has worked for Caltrans Districts 5, 7, 8 and HQ in Sacramento.

Jake Reece is a sophomore at Cal State San Bernardino pursuing a BA in Entrepreneurial Management. Jake is an officer in the LOBOS Salsa Club on campus, and a captain of the performance dance team. He is an aspiring professional photographer and also enjoys music, martial arts and salsa dancing. Jake joined the Leonard Transportation Center October of 2009 as a student assistant and is responsible for day-to-day office tasks.

Advisory Board Members

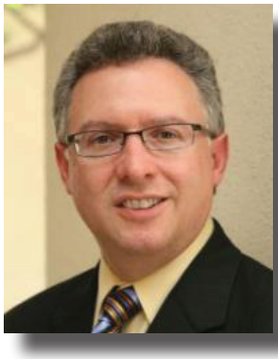
Advisory Board Chair
Mr. Robert Wolf
President
The Robert A. Wolf Corporation

Ms. Judith Battey



Mr. Dan Beal
Transportation Consultant

Mr. Rick Bishop
Executive Director
Western Riverside Council of Governments (WRCOG)



Dr. Marlon Boarnet
Professor
Department of Planning, Policy, and Design
UC, Irvine

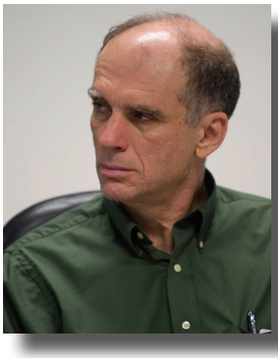
Mr. Glenn Bozar
Logistics Manager
Tyco Electronics

Mr. Robert Brendza
Corridor Superintendent
BNSF Railway

Mr. Rick Burnham
Assistant Director
Center for Sustainable Suburban Development
UC, Riverside

Mr. Alypios Chatziianou
Professor and LAES Program Director
California State Polytechnic University, San Luis Obispo

Mr. Brett Clavio
Project Manager
Omnitrans



Dr. Don Coduto
Interim Dean of
Engineering at Cal Poly
Pomona

Mr. Ted Honcharik
CEO
Petroleum
Transportation/Pacific
Tank Lines

Dr. Karen Dill Bowerman
Dean
College of Business and
Public Administration
CSU, San Bernardino

Mr. Hasan Ikhrata
Executive Director
Southern California
Association of
Governments

Mr. Malcolm Driggs
Apprenticeship
Coordinator, San
Bernardino, Riverside,
and Imperial Counties
Operating Engineers
Training Trust

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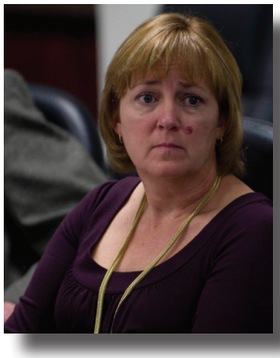
President
CSU, San Bernardino

Mr. Steve Harrington
VP Commercial
Development
MohrPower Solar, Inc.

Mr. Bill Leonard
Secretary of State
Consumer Services
Agency

Hon. Jon Harrison
Project Manager, Local
Government Solutions
ESRI

Ms. Val Liese
President
Jack Jones Trucking,
Inc.



Ms. Anne Mayer
Executive Director
Riverside County
Transportation
Commission

Ms. Mary Jane Olhasso
Economic Development Director
City of Ontario

Mr. Michael Miles
District Director –
District 7 State of
California,
Department of
Transportation

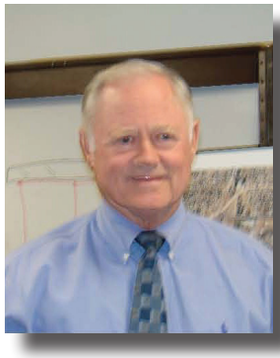
Mr. Steve PonTell
La Jolla Institute

Mr. Henry A. Nejako, Jr.
Program Management
Officer
Office of Technology
Federal Transit
Administration, US
Department of
Transportation

Ms. Lisa Reece
Vice President
HDR Engineering Inc.

Dr. Francelina Neto
Department Chair
Civil Engineering
Department
Cal Poly Pomona

Mr. Don Rogers
Executive Director
Inland Valley
Development Agency



Mr. Craig Neustaedter
President
Transportation
Engineering & Planning
Inc.

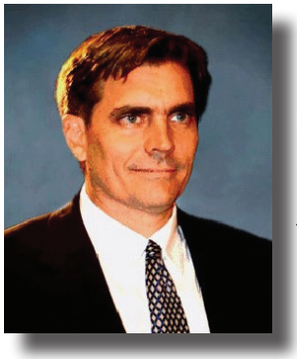
Mr. William "Ty" Schuiling
Director of Planning and
Programming
San Bernardino
Associated Governments

Mr. Ned Sciortino
Vice President,
Development Hillwood

Mr. Larry Sharp
Vice President for
University
Advancement
CSU, San Bernardino

Mr. Mike Siebert
Director of Maintenance
Apex Logistics

Mr. Matthew Webb
President
Albert A. Webb
Associates



Dr. Raymond Wolfe
District Director – District 8
California Department of
Transportation

The theme of the Center is "decision-making and management of transportation systems." It reflects the commitment to provide local, state, and federal transportation providers with increased capability to produce improved transportation decisions and with the information and research resources to better manage transportation systems (including public transit). It is evident that the Leonard Transportation Center is here to serve, so please let us know whenever we can assist your organization with these important transportation issues.

Dr. Karen Dill Bowerman
Dean,
College of
Business and
Public
Administration
at CSUSB

Meet Our Researchers

Ardavan Asef-Vaziri, Ph.D.
Associate Professor, Department of Systems and Operations Management
California State University, Northridge

He received his BS form the Department of Industrial Engineering, Arya-Meher University of Technology in 1975. His MS is in Engineering Management and was obtained form the University of Southern California in 1977. His PhD is in industrial Engineering with a focus on Design and Operations of Production Systems and was received from the University of Toronto in 1997. Dr. Asef's research revolves around applications of optimization and simulation in facility logistics, freight transportation, business process flows, and project management. Dr. Asef-Vaziri's publications have appeared in IIE transactions, European Journal of Operations Research, Journal of Operational Research Society, among others. He is a member of the Institute of Operations Research and Management Science, and a senior member of the Institute of Industrial Engineering. Dr. Asef was recognized as the College of Business and Economic Research Felloe of 2009 which is the most prestigious awards in the college.

David Blekhman, Ph.D.
Associate Professor in the Power, Energy and Transportation Program in the Department of Technology & in charge of the Automotive Technologies and Fluid Power Labratories
California State University, Los Angeles

Dr. Blekhman received his B.S.-M.S., in Thermal Physics and Engineering from St. Petersburg State Technical University, Russia, and a Ph.D. in Mechanical and Aerospace Engineering in 2002 from SUNY Buffalo. In 2002-2007 Dr. Blekhman taught a variety of courses in the Mechanical Engineering curriculum at Grand Valley State University, MI, and was responsible for the development of a Combustion laboratory. Currently, Dr. Blekhman is a PI for DOE's "Hydrogen and Fuel Cell Education at CSULA" grant and a Co-PI for the California Air Resources Board grant to built a Hydrogen Refueling Station at the CSULA campus. Dr. Blekhman has taught courses in Statics and Solid Mechanics, Design, Heat Transfer, Fluid Mechanics, Thermodynamics, Energy Systems, Combustion Applications, Automotive Mechanisms, Advanced Engine Design, Fluid Power, Electric and Hybrid Vehicles, Fuel Cells, etc.

Shel Bockman, Ph.D.
Professor of Management and Co-Director of the University's Institute of Applied Research and Policy Analysis.
California State University, San Bernardino

Professor Bockman's Ph.D. is in Sociology from Indiana University. Formerly he taught in Departments of Sociology at Purdue University, and the University of California, Riverside. Currently, he is a professor in California State University's Department of Management. His areas of expertise include research methods, demographics analysis and organizational design. Dr. Bockman has been the recipient of a Ford Foundation Urban Crisis Grant and a National Science Foundation Grant. Dr. Bockman has published and presented various papers in his area of expertise.

Kenneth James, Ph.D.
Professor in Electrical Engineering and in Computer Engineering/Computer Science
California State University, Long Beach

Upon receiving his BS in Physics in 1968 from Case Institute in Cleveland, Dr. James joined the technical staff of Rockwell International Research Division in Anaheim, California. While employed with Rockwell International as a design engineer for VLSI devices and fiber-optic sensors, he completed an MS in Electrical Enginering at California State University, Fullerton in 1972 and a Ph.D. in Electrical Engineering a thte University of California, Irvine, in 1982. In 1984, he formed OPCOA, Inc. in Garden Grove, California and served as CEO until 1996. The company, through funded research from NASA, produced the first micro-mechanical optical filter for fiber communications. He is the author of numerous articles and has been awarded 18 patents. He joined the faculty at California State University, Long Beach in 1978.

Dohyung Kim, Ph.D.
Assistant Professor, Department of Urban and Regional Planning
California Polytechnic State University, Pomona

He received his Ph.D. in urban and regional planning from the University of Florida in 2005. Dr. Kim's research addresses transportation planning, land use relationships, land use simulation, traffic safety, urban design, and GIS application in planning. His research and practice are currently focused on three principal areas: GIS applications to planning, land use/ transportation relationships, and pedestrians/ bicycle safety. He has also developed several customized GIS applications for transportation planning such as crash mapping toolkit, land use simulation tool, and urban pattern modeling package. His research on pedestrian and bicycle safety is recently published on Korean Local Administration Review.

Cornelius Nuworsoo, Ph.D.
Associate Professor Transportation Planning
California Polytechnic State University in San Luis Obispo

Before that he was a researcher with the University of California Transportation Center at U.C. Berkley. He earned a Ph.D. in Transportation Engineering from U.C. Berkeley in 2004. He has twenty years of field experience spanning transportation planning and traffic engineering. His research covers multi-modal planning to integrate non-motorized modes with transit, roads and rails.

Michael Reibel, Ph.D.
Professor of Geography
California State Polytechnic University, Pomona

He is an urban geographer with expertise in geographic information systems (GIS) applications and processes in housing, demographics and transportation. His current research has been published in the American Journal of Public Health, Population Research and Policy Review, Urban Geography and Environmental Planning A, among other journals.

Ashraf Rahim, Ph.D.
Associate Professor, Department of Civil & Environmental Engineering
California Polytechnic State University, San Luis Obispo

He received his BS in Civil Engineering and MS in Transportation Engineering from the University of Mansoura, Egypt. In May 2001 he obtained his Ph.D. from the University of Mississippi (Olemiss). Dr. Rahim has been active in conducting research in the areas of recycle waste materials in pavement layers, pavement materials character-ization and pavement performance. A sample of his projects includes: Evaluation of the Use of Industrial Waste recycle Materials in Cement Treated Bases, Evaluation of Cracks, Seat and Overlay Method in California, Recycled Waste Materials as additives to Improve the Performance of Soil-Cement- A Laboratory Investigation, Concrete Bridge Deck Sealing/ Filling: an Overview of Research, and Cement Stabilized Recycled Aggregates from Roadway Base.

Richard Willson, Ph.D.
Professor, Department of Urban and Regional Planning
California Polytechnic State University, Pomona

He previously served as the Department chair for ten years, Dr. Willson's research addresses greenhouse gas inventory and mitigation, transportation planning, land/ use transportation relationships, travel demand management, transit-oriented development, and parking policy. His planning theory research addresses the implications of communicative action theory for transportation planning, educational assessment, and leadership. His research has appeared in the Journal of Planning Education and Research, the Journal of the American Planning Association, Transportation, Transportation Quarterly, Regional Science and Urban Economics, Transportation Research A, and other journals.

Anna Ya Ni, Ph.D.
Assistant Professor at the Public Administration Department
California State University San Bernardino

She graduated from the Ph.D. program at Maxwell School, Syracuse University in 2007. Anna is specialized in organization theory and information technology. She earned her M.P.A. and Master of Science in Information Assurance from the Iowa State University and received her B.A. in International Politics from the University of International Relations, Beijing. Anna also had held management positions in a state-owned company in China and a regional office of the Hoechst AG, headquartered in Frankfurt, Germany before she pursued her post-graduate education.

Anna has produced publications which examine public management topics such as e-government development, innovation adoption, privatization, and performance measurement. Her work has appeared in Public Administration Review, American Review of Public Administration, Public Budgeting & Finance, Government Information Quarterly, and edited volumes. She teaches e-government, public management information systems, government-business relations, public policy analysis, and research methods.

Tony Coulson, Ph.D.
Professor, Department of Information & Decision Sciences
California State University, San Bernardino

He came to San Bernardino in 2001 after a professional career as an IT executive and graduating with a PhD in Information Systems from Claremont Graduate University. Tony's research interests include: Enterprise Systems implementation, virtual communities and systems security. Tony is the Executive Director of the Information Assurance and Security Management Center at CSUSB and recently led the effort to have the University designated as a Center of Academic Excellence in Information Assurance Education by the U.S. National Security Agency.

Pat McInturff, Ph.D.
Professor Emeritus, Department of Management
California State University, San Bernardino

His primary teaching area was in the areas of Law, Environment, and Entrepreneurship. He was a co-founder of the Inland Empire Center for Entrepreneurship, as well as a charter faculty member in the Water Resources Institute. Much of his research has focused on decision making, theory, logistics, and entrepreneurship, while his most recent interest is in the business history of the automobile.

Barbara W. Sirotnik, Ph.D.
Professor of Statistics and Supply Chain Management and Co-Director of the University's Institute of Applied Research and Policy Analysis.
California State University, San Bernardino

She holds a Ph.D. in statistics, and her additional areas of expertise include operations research, information management, computer programming, and research methods. She has authored and co-authored theoretical articles in the areas of paired comparisons and contingency table analysis, and has published applied research in factor analysis. She has extensive consulting experience for agencies such as the Bureau of Land Management, the Riverside County Health Department, various colleges and universities, San Bernardino City's Redevelopment Agency, and San Bernardino Department of Public Social Services.

Cherstin Lyon, Ph.D.
Assistant Professor of History and Coordinator of the Public and Oral History program
California State University, San Bernardino

Lyon teaches courses in U.S. history, race, citizenship and the law, oral history and various forms of public history, including historic preservation. She graduated with a Ph.D. in History from the University of Arizona and received her M.A. in history from the University of Oregon. Lyon has a book under contract with Temple University Press on Japanese American citizenship and civil disobedience during World War II. This book is based in part on oral histories with Japanese Americans who resisted the draft from inside two internment camps as a means of protesting their unconstitutional confinement during the war. Lyon continues to engage in oral history and archival research as she investigates the preservation of the Sam and Alfreda Maloof historic property during the expansion of the 210 Foothills Freeway.

Susan Cholette, Ph.D.
Associate Professor of Decision Sciences in the College of Business
San Francisco State University

She has prepared for and taught classes at both graduate and undergraduate levels in statistics, operations, supply chain management, and project management, as well as served as an adviser for master's theses, internships and independent study classes. Her research interests include supply chain management, especially as applied to the wine industry, and most recently has finished managing a project to match wineries to specialty distributors, under a DoE Business in International Education grant. She is currently investigating measuring and improving the energy usage and emissions efficiency (often referred to popularly as the carbon footprint) of food distribution networks. An additional research interest includes optimizing the benefits from Internet search advertising. Her research efforts have appeared in such peer-reviewed publications as Interfaces, International Journal of Pricing and Revenue Management, International Journal of Wine Marketing/Wine Business and Journal of Global Marketing as well as numerous conference proceedings. Prior to her university appointment, she served as a full-time practicing project manager in industry for several years. At Manhattan Associates she led cross-functional teams to manage three release cycles of the company's primary product. She has delivered many classes as a professor in two different universities, as the co-creator of two customized training sessions for the Gap, and as a supply chain consultant for Aspentech where she delivered client-specific training sessions onsite. She earned her Ph.D. in operations research at Stanford University, and her B.S.E. in electrical engineering at Princeton University.

Jeffery Gerfen, Ph.D.
Professor at Electrical Engineering
Cal Poly San Luis Obispo

Hamid Pourmohammadi
Assistant Professor of Information System and Operations Management Department
California State University, Dominguez Hills

Anurag Pande, Ph.D.
Assistant Professor, Civil and Environmental Engineering Program
Cal Poly San Luis Obispo

LTC Approved Research Projects

Improving Goods Movement in a Metropolitan Area Adjacent to a Port
2009-SGP-1040 CSU Dominguez Hills
08/09 AMT/Total: 4,999
Pourmohammadi, Hamid | hamid@csudh.edu

Southern California and specially Los Angeles faces enormous congestion associated with increase in cargo movement from/to the regional Ports. The region has started to drown in a sea of trucks and trains. This growing congestion has elevated the costs of freight transport. Also, it resulted in greater concerns regarding environmental impacts on local communities. Considering the predicted tripling of cargo movement through the ports in the next two decades, it is crucial to develop immediate alternative arrangements for freight management. More efficient operational management of intermodal transport provides effective cargo movement and maintains environmental justice. In this study, analytical tools, such as mathematical programming, are employed to develop a new strategy for cargo movement in order to lesser congestion and environmental impact.

Building Hydrogen Economy One Block at the Time
2009-SGP-1041 CSULA
08/09 AMT/Total: 5000
Blekhman, David | blekhman@calstatela.edu

The Governor's S-7-04 executive order states "BE IT FURTHER ORDERED that California's 21 interstate freeways shall be designated as the California Hydrogen Highway Network and . . . Shall work with . . . Local and regional government organizations, educators, energy providers, auto-makers, fuel cell products suppliers . . ." Governor Schwarzenegger's order has foreseen the United States struggling with the socio-economic aftershocks of the dependence on foreign oil. Hydrogen economy is a likely long-term solution to the dependence on oil, global warming, and clean air concerns associated with the transportation sector. Production of hydrogen from domestic fossil resources, while a short-term alternative, is inferior to electrolysis utilizing renewable energy as a comprehensive solution to clean transportation.

Effective Decision Making Started with a Effective Curriculum
2009-SGP-1042 CSULA
08/09 AMT/Total: 5000
Blekhman, David | blekhman@calstatela.edu

Effective Decision Making and Management of Transportation Systems is based on well prepared decision makers and managers, who should possess knowledge and experience related to the technologies that are the subject of their decision making. Greater Los Angeles and the surrounding areas are amongst the most congested and polluted in the country. Fortunately, newer less polluting technologies are being developed and implemented. Among them are hybrid and fuel cell vehicles meeting SULEV and zero emission standards. These technologies exist in a multitude of choices and possibilities which require high level of technical expertise in making effective transportation management decisions. For example, LA Metro has recently acquired six hybrid buses for fleet testing. The agency also hired an engineer with appropriate experience in heavy-duty hybrid systems to aid in the service and evaluation process. A decision will be made upon completing the test period whether to extend the hybrid bus program in Los Angeles. With

the advent of new electric, hybrid and fuel cell vehicles, the growing need for engineers and technology managers with related knowledge is anticipated.

Evaluation of Waste Recycled Materials Application in Highway Pavement in California an Overview of Research
2009-SGP-1043 Cal Poly San Luis Obispo
08/09 AMT/Total: 5000
Rahim, Ashraf | sponprog@calpoly.edu

The generation, handling, and safe disposal of solid wastes have become a major concern in the United States. Many disposal facilities are approaching capacity and environmental regulations have become increasingly wide-spread and restrictive. Also, there is a growing public awareness of the importance of conserving and preserving our valuable natural resources. This expanding awareness has given rise to a definite trend towards recycling or use of a variety of solid waste materials. The construction of pavements requires large volumes of expensive materials. As the volume of waste and by-product materials generated and the cost of disposal continue to increase, there is an increasing need to recover and recycle these materials for use in both primary and secondary applications of highway projects. Waste and by-product materials, differ vastly in their types and properties. This will be reflected in the pavement applications for which they may be suited. Also, experience and knowledge regarding the use of these materials vary. The objective of this research is to review the applications of different waste and by-product materials in the construction and rehabilitation of the asphalt pavements in California. An extensive literature search will be conducted and summarized in a final report which will be submitted to LTC at the end of study. The focus of this overview research will be on the sue of Recycled Asphalt Pavement (RAP), the use of Crumb Rubber (CR) and Recycled Concrete Aggregate (RCA) in asphalt pavement construction/rehabilitation in California. The finding of this research is expected to pave the road for an extensive laboratory investigation.

Education Aids for Analyzing Supply Chain Energy Usage and Emissions
2009-SGP-1052 CSUSB
08/09 AMT/Total: 4,807
Cholette, Susan | cholette@sfsu.edu
Energy usage by the US transportation sector is substantial, and the resultant greenhouse gas emissions have become a topical concern. Knowing that we as a society need to reduce our "carbon footprint" is not sufficient, as we need to know how to do this in a way that still supports growth and economic prosperity. At present there is little evidence that universities are currently training students to recognize and evaluate emissions reductions opportunities and to make sound decisions that will lead to sustainable improvement. While such training would be appropriate to include within the standard operations management class, enthusiastic professors are faced with a dearth of existing course material.

The project proposed would be to develop and disseminate a tutorial and supplemental materials around and existing web-based energy and emissions calculator, CargoScope. This tool has been successfully used by students and researchers, but current documentation is geared towards specialists. With the help of an interactive, easier to understand online tutorial students would be able to use this tool in a typical operations management class, allowing them to engage in hands-on exercises to build supply chain and measure the energy and carbon intensity of each stage. The additional modules would expose students to problems and varying complexity from different industries. Students will learn that supply chain design has a significant impact on a firm's energy usage and associated emissions and will be better positioned to make sound, informed decisions that meet both business and environmental needs.

Transportation Impact and Mitigation Case Study: The Sam and Alfreda Maloof Story
2009-SGP-1058 CSUSB
08/09 AMT/Total: 5,000
Lyon, Cherstin | clyon@csusb.edu

The Maloof project is part of an interdisciplinary research project to develop and implement a program that will incorporate transportation, land-use, air quality, and energy management within the Inland Empire region. The larger program is titled Regional Intersection of Transportion/ Land-Use/Air Quality/Energy and will involve the cooperation of UCI Department of Planning, Policy & Design (UCI-PPD), CSUSB Leonard Transportation Center and the Southern California Association of Governments (SCAG) as well as other experts in the field. The Maloof project is a case study that is designed to research and process by which different agencies can more effectively mitigate the impact of transportation construction projects. The objective is to produce a report that will present recommendations for greater interagency cooperation through the environmental impact and mitigation portion of transportation projects. The entire project will cover the scope of the entire academic year and will culminate in a report, a conference paper, a possible magazine article in *Preservation* magazine, and a public event at the Maloof foundation and a chapter in a book in a policy oriented anthology. The goal is to document the process via the Maloof case study by which different agencies such as: Caltrans, San Bernardino Associated Governments (SANBAG), State Historical Preservations Offices (SHPO) and the National Trust for Historic Preservation in cooperation with private individuals can effectively work together to achieve the preservation of historical and cultural resources in the most efficient and mutually satisfactory way possible. Methods for research will include attaining and reading government archival documents from Caltrans, researching internal memos, minutes from meetings, and related documents from SANBAG, researching case law history regarding preservation and landscape preservation, reviewing academic literature on preservation, and extensive interviews with the people involved in the Maloof case.

Feasibility of Linear Synchronous Motor Truck Lanes to Reduce Pollution and Title Congestion on Inland Empire Freeways
2009-NBG-1045 CSULB
08/09 AMT/Total: 50,000
James, Kenneth | james@csulb.edu

The recent interest in "clean" movement of containers along Southern California freeways has prompted the South Coast Air Quality Management District (SCAQMD) and the California Department of Transportation (CALTRANS) to develop requirements for zero-emission container transport. This proposal (1) describes a realistic approach to reduction of goods movement pollution— the LSM/HA propulsion system, (2) proposes a detailed study of both the implementation and operational plans for such a system, and (3) provides a preliminary estimate of the pollution reduction capability of such a system.

Operational, Safety, Environmental, and Financial (OSEF) Feasibility Analysis of Integrating Exclusive Truck Roads into SR60 Freight Corridor
2009-NBG-1047 CSUSB
08/09 AMT/Total: 49,995
Asef-Vaziri, Ardavan | ardavan.asef-vaziri@csun.edu

Many jurisdictions are concerned with congested truck traffic and its effects on operations, safety, and the environment. A variety of strategies for truck lane/roads have been implemented in some 20 states to mitigate the effects of increasing truck traffic. The more aggressive of these

strategies are: (i) restricted truck lanes where tricks are restricted and/or from specified lanes, (ii) dedicated truck lanes where specified lane that are dedicated only to trucks, and (iii) exclusive truck roads (ETR) where trucks use a road usually separated by barriers or median.In recent years a number of studies have examined the establishment of freight corridors, including the possibility of implementing truck lane/road strategies in Southern California. The current SCAG's RTP identifies truck lane/road strategies as a means to provide (i) efficient and smooth flow of containers, (ii) overall mobility along the corridor, and (iii) safety and sustainability improvement. RTP has proposed the construction of a network of ETRs for effective and sustainable flows of containers to and from San Pedro Bay ports. According to Leachman (2005), without congestion relief, even a small container fee would drive trade away from these ports. Failure to invest in goods movement infrastructure in an efficient and socially responsible manner could mean significant economic and environmental losses.

We will develop a conceptual point of reference to integrate the ETR strategy into Southern California's SR60 transportation corridor. Next, we will establish a system and its set of criteria for vulnerability of the corridor segments to ETR. The criteria for the implementation of ETR forms a seven dimensional space: (i) operational effectiveness measured by the level of service, (ii) safety improvement measured by the number of severity of crashes, (iii) environmental sustainability, (iv) design concerns such as trade-off analysis between number of access points and usage, (v) public perception, (vi) legislative and administrative concerns, and (vii) financial/economics feasibility measured in terms of direct and indirect initial investment and yearly operational costs and benefits. Our final analysis will integrate these dimensions into a single measure of effectiveness of NPV or in its relative form as benefit/cost (B/C).

GIS Tools for Strategic SB375 Planning and Program Participation
2009-NBG-1048 CSUSB
08/09 AMT/Total: 49,980
Reibel, Michael | mreibel@csupomona.edu

This proposal is for a program of decision support protocol development and related GIS computer applications development for strategic compliance with the new transportation and land use planning mandates of California SB 375. SB 375 is a statue design to help slow global warming (and incidentally to reduce air pollution and urban sprawl) by promoting comprehensive urban development approaches that are expected to reduce passenger miles driven. This mandate, which affects local agencies and metropolitan (regional) planning organizations (MPOs), requires far more integration of land use planning with transportation planning, and far more geospatial analysis than was previously necessary.

The protocol and tools developed under terms of this proposed grant would have stand-alone value as innovative planning tools and methodologies, and their use could and should be promoted to advantage through ordinary dissemination means. But they are ideally envisioned as the central innovation in a larger package of SB 375-related education, outreach and technical assistance services to local and regional agencies. Such a package would require additional funding as well as program efforts beyond the scope of this twelve month proposal.

Smart Dial-a-Ride for Demand Responsive Transit Operations: Research and Development of a Project Dispatch Assistance Tool
2009-NBG-1050 CSUSB
08/09 AMT/Total: 49,990
Gerfen, Jeffery | jgerfen@calpoly.edu

This project proposes to investigate and develop the conceptual basis for an efficient system to aid Dial-a-Ride operations in several areas including: (a) taking ride reservations, (b) assigning rides to vehicles, (c) optimizing vehicle routing, and (d) automatically generating reports which characterize system operation and ridership.

Smart Dial-a-Ride for Demand Responsive Transit Operations: Analysis and Development of a Concept for Improvement
2009-NBG-1051 CSUSB
08/09 AMT/Total: 49,729
Nuworsoo, Cornelius | cnuworso@calpoly.edu

This project proposes to investigate and develop the conceptual basis for an efficient system to aid Dial-a-Ride operations in several areas including: (a) taking ride reservations, (b) assigning rides to vehicles, (c) optimizing vehicle routing, and (d) automatically generating reports which characterize system operation and ridership.

HOV/HOT Lane Proposal
2009-NBG-1053 CSUSB
08/09 AMT/Total: 49,106
Bockman, Sheldon | sbockman@csusb.edu

In June, SANBAG and IAR met to discuss the various research needs of the agency. One of the major transportation issues involves converting existing HOV lanes on the 210, I-10 and I-15 freeways into HOT lanes, which will allow solo commuters to pay a toll to use these lanes. But before SANBAG makes a final decision, it was agreed that a telephone survey of residents should be undertaken in an effort to determine the public's interest in and willingness to support this conversation of HOV lanes into HOT lanes.

These telephone surveys will be conducted with residents of San Bernardino Valley and Victor Valley who use the three freeway corridors. A total of 500 respondents will be surveyed, yielding results with a 95% level of confidence and an accuracy of +/- 4.4%. The questionnaire will be constructed in close consultation with SANBAG Officials and the surveys will be conducted in both English and Spanish. Data from this survey will provide important information by which SANBAG could market such a conversion to the general public.

Telephone Survey to Determine Travel Behavior of Residents of Transit-Oriented Development in the Inland Empire
2009-NBG-1054 CSUSB
08/09 AMT/Total: 49,106
Bockman, Sheldon | sbockman@csusb.edu

As articulated in Rick Willson's proposal (Phase 1 of the project), policy makers are seeking to coordinate land use and transportation planning to support environmental goals. This is required in the Sustainable Communities Strategy plans mandated by SB 375, and many other regional and local planning efforts. Part of that coordination involves clustering development near transit services (transit-oriented development). This effort requires high quality, local information about the travel behavior of those who live in transit-oriented development (TOD).

In order to gather this information, telephone surveys will be conducted with four target

populations. A survey of the first target population (200 residents living within ½ mile of commuter rail stations) will be undertaken as part of Phase 1 of this product. This second phase of the study addresses the three other target populations: 200 residents living within ½ mile of high frequency bus stops, 200 residents living father than ½ mile but within a 5 mile radius of high frequency bus stops. Data derived from the survey will be used to understand how travel behavior and auto ownership vary with transit proximity and to understand the factors that affect those relationships. The results will be useful for modelers and policy makers in the Inland Empire and across the state.

Travel Behavior of Residents of Transit-Oriented Development in the Inland Empire
2009-NBG-1055 CSUSB
08/09 AMT/Total: 49,817
Willson, Richard | rwwillson@csupomona.edu

Policy makers are seeking to coordinate land use and transportation planning to support environmental goals. This required in the Sustainable Communities Strategy plans mandated by SB 375, and many other regional and local planning efforts. Part of that coordination involves clustering development near transit services (transit oriented development). This effort required high quality development (TOD). The Southern California Association of Governments (SCAG) and Cal Poly Pomona (CPP) scholars are working on modeling tools to better understand and predict these effects, but information is lacking about the travel behavior of those living in TODs. This proposal follows two previous California studies of the travel behavior of those who live in transit-oriented development (TOD). There are two new foci represented in his proposal – studying bud and commuter rail TOD, and studying the Inland Empire. The project involves a survey of the residents who live in multifamily residential buildings within ½ mile of high capacity bus and commuter rail lines. The results will be used to understand how travel behavior and auto ownership vary with transit proximity and to understand the factors that affect those relationships. The results will be useful for modelers and policy makers in the Inland Empire and across the state.

Assessment of Public Perception of User-Based Fees and Tolls to Finance Transportation Infrastructure Improvements
2009-NBG-1056 CSUSB
08/09 AMT/Total: 49,995
Pande, Anurag | apande@calpoly.edu

With aging infrastructure and declining tax revenues new mechanisms of financing transportation alternatives are of increasing interest to researchers as well as practitioners. Transportation projects, such as highways construction, etc., are primarily financed through fuel taxes, which constitute a form of user fees. Improved fuel economy is likely to erode the revenue stream from the gas tax. California has historically been a leader in mandating technological improvements in transportation, which means that fuel-based revenue stream(s) may be negatively impacted, making it even more difficult to fund California's infrastructure. Such proposed revenue generation measures as: (a) raising the fuel tax rate to make up for declining fuel tax revenues and (b) imposing other user-based fees including tax based on vehicle-mile travelled are not considered politically viable (Dill & Weinstein, 2007). Another of the approaches towards increasing revenues is user based fees collected through tolls directed at specific infrastructure projects. It could help overcome the widening gulf between available funding and needed improvements.

The Improvement of Bicyclists and Pedestrians Safety in Riverside County: Focusing on Environmental Contributing Factors to Bicyclist and Pedestrian Crashes
2009-NBG-1059 CSUSB
08/09 AMT/Total: 49,955
Kim, Dohyung | dohyungkim@csupomona.edu

Both walking and biking have received much attention as alternative transportation modes in latest transportation planning. They ultimately contribute toward healthy and sustainable communities by promoting healthier lifestyle and social interaction in the communities. However, high fatality and injury rates of pedestrian and bicycle crashes threaten the safety of both bicyclists and pedestrians. Although local authorities apply the 3Es strategy (Enforcement, Education, and Engineering) to reduce crashes, planners have recently paid attention to engineering strategies which include planning approaches such as bicycle streetscape design, roadway design, and physical environment improvement. However, a challenge for local transportation planners to locate the crash concentration zones where engineering strategies are applicable. They also need to discover specific contributing factors causing bicycle and pedestrian crashes in order to develop proper engineering resolutions. This research will specifically focus on the crash concentration zones that are most influenced by environmental contributing factors. This research will provide a systemic methodology for local transportation planners that will help them understand the patterns of pedestrian and bicycle crashes and their relationship to the physical environment of surrounding areas. It will also allow planners to effectively allocate scarce resources that will help reduce pedestrian and bicycle crashes by presenting a methodology developing customized countermeasures for specific crash concentration zones.

"The Leonard Transportation Center has become one of the university's pivotal research centers. It's virtually a prototype of the way in which federal and private funding support can be employed, and it should be applauded for its growing agenda of issues of vital regional importance, for its increasing ability to offer service by creating and sharing valable regional databases, and for it's enhanced concentration on academic program development, including logistics, public policy analysis, and GIS among others."

Albert Karnig, President of CSUSB

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We drive for a living. Safety is our priority.

Consultants

Craig Smith

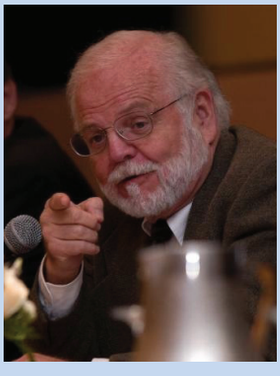
Craig Smith is Principal Consultant at CD Smith Consulting. Mr. Smith's career has been focused on helping businesses identify and implement opportunities to expand their revenue base or increase their value proposition. From the establishment of new supply chain models to sales channel expansion and business development, Mr. Smith's experience includes Fortune 500 companies such as Costco Wholesale (Costco.com), Joann Craft and Fabrics, and Jacuzzi Brands as well as small business and foreign based companies.

Kevin J. Anderson

He began his career in the late '80s as a Machinist and Test Technician for Zurn Industries in Erie, Pennsylvania. Additionally he worked for both General Electric and Johnson Controls. After receiving his engineering degree Kevin joined the Westinghouse Air Brake Company (WABTEC). In 1994 he established WABTEC's passenger transit rail field sales, service and field engineering operations in Southern California. In the public sector Kevin was responsible for establishing San Bernardino Valley Community College's Transportation Training Center. In 2008 Kevin left SBVC and established South Sequoia LLC to pursue his personal goal of successful self-employment.

Steven C. Dunn, Ph.D. CPIM

A leader in the field of sustainability management for over fifteen years, Dr. Dunn is on the faculty of both the Supply Chain and Operations Management Department in the College of Business and the Environmental Studies Program at the University of Wisconsin Oshkosh. He has helped develop an innovative program that consists of lean based supply chain courses combined with Triple Bottom Line (People/Planet/Profit) thinking. He has taught Environmental Management courses since 1994 at the graduate and undergraduate level.



Lindell Marsh

A California attorney, having graduated with honors from Hastings College of the Law, University of California. He enjoys a national practice focused on land use, urban systems, natural resources and the environment. A major focus and interest is assisting public and private sector clients to develop legal, institutional and collaborative strategies and processes to successfully address unusually complex or sensitive concerns, issues and opportunities; often acting as a neutral facilitator.

Certificate Training

The Leonard Transportation Center's certificates in Sustainable Transportation and Logistics prepare students to lead sustainable initiatives that address the growing concerns about environmental and social issues both internally in their organizations and externally in their supply chains and surrounding communities.

Four certificates targeting different transportation and logistics professionals are offered: carriers, warehouses, public transit, and transportation policy. Each certificate consists of a general overview course on the Triple Bottom Line sustainable followed by three customized courses. Each course is a 10-hour module, which includes 8 hours on-site lecture, group discussion, case studies, and practical workshops plus 2 hours of online learning, benchmarking, and more group discussions. Students receive a Certificate of Completion upon successful completion of four courses. Courses are offered every month on Fridays and Saturdays.

Four courses are offered for people employed by carriers (rail and truck), warehouses and distribution centers, public transit agencies, and transportation planners and policy makers in government agencies and think tanks. Except for the first general overview course, the other three courses in each certificate program are customized for the specific industry studied and its current challenges and issues.

Program Overview Course: Sustainability Concepts: The Triple Bottom Line:

The TBL concept is a theoretical framework that guides transportation and logistics decisions. The concept of economic, social, and environmental planning as a cornerstone for building a successful and dynamic society is highlighted with best practice examples from business and the public sector.

Customized Courses

Course 1: Benchmarking and Case Studies

- Study of best practices and case examples of programs in action
- The EPA Smartway Program: what is and how it works.
- Identification of similar projects in the peer group.
- Discussions of what works and what doesn't.

Course 2: Sustainable Operations: Measurement and Tools

- Overview of specific tools available to organizations to address the Triple Bottom Line
- Introduction of sustainability tools (e.g. ISO 14000, WBCSD, and Carbon Footprints)
- Identification of specific opportunities/projects in their organization
- Development of readily applicable sustainable and profitable projects

Course 3: Sustainable Operations: Long Term Success Strategies

- Identification of the obligatory components of a Triple Bottom Line strategy
- Identification of the key steps to move to their future desired state
- Justification of the key steps internal and external change management factors that will need to occur
- Development of a sustainability project plan for their organization's TBL journey

The concept of sustainability will be the essential driver of long-term strategy and short-term decision making for the 21st century. Traditional business education may not have prepared managers for the monumental impact and complexity of this topic. The Leonard Transportation Center's Program is designed to fill that void with an integrated approach combining science, economics, management and social sciences.

Education Program

The rapid increase of logistics employment in the Inland Empire requires the development of a transportation curriculum that is responsive to this increased demand for logistics and transportation skills from the public and private sectors. Reflecting the center's theme the courses emphasize a management approach to transportation. Such emphasis is in context to multidisciplinary course work, including economics, public finance, environmental analysis, urban planning and information systems.

Requirements for a Bachelor of Arts (BA) Degree
Supply Chain and Transportation Management Concentration

1. SCM 305 Enterprise Resource Planning (4)

2. SCM 350 Decision Making in Supply Chain and Transportation Management (4)

3. SCM 440 Transportation System Management (4)

4. SCM 480 Quality Management (4)

5. SCM 490 Strategic Management in Supply Chain and Transportation (4)

6. Four units chosen from:

Info 280 Information Mapping and Data Visualization (4)

SCM 405 Advanced Enterprise Systems (4)

SCM 575 Internship in Supply Chain Management (4)

SCM 595 Independent Study (4)

GEOG 307 Transportation Issues and Development (4)

MKTG 565 Logistics (4)

Student Scholarships

The Leonard Transportation Center was proud to award Cal State San Bernardino MBA student, Tania Parmar, a $1,000 scholarship and trip to the Transportation Research Board Conference in Washington, D.C. In January 2010.

Tania was Graduate Research Assistant for Leonard Transportation Center Researcher and CSUSB professor, Patrick McInturff, Ph.D. Her areas of research included Punta Colonet: Multimodal Project in Baja California and Transportation and Distribution Systems in the Inland Empire: The Impact of the Port Ensenada Proposals.

Tania also had the opportunity to present her findings at the First Annual Leonard Transportation Center Research Conference back in 2009. Her research involved analyzing economic and environmental impact of Mexican port development on Inland Empire and comparative analysis of containerized cargo at the western ports as well as the how the transportation system was affected or affected the same.

2010 Southern California Transportation & Logistics Summit

On June 4, 2010 the Leonard Transportation Center hosted the 2010 Southern California Transportation and Logistics Summit at the Doubletree Hotel in Ontario, California. The theme of this years Summit was Economic, Regulatory & Infrastructure Outlook: Will Southern California Maintain its Leadership in the Global Transportation and Logistics Economy? Paul Bingham, Managing Director Global Commerce and Transportation HIS Global Insight, appeared as this years keynote speaker; giving his presentation of Southern California and the Global Transportation and Logistics Economy. Other speakers included Economist, John Husing , Executive Director of Southern California Association of Governments (SCAG), Hasan Ikhrata, and Development and Marketing Director of Hillwood Investment Properties, Brian Wilson. The Summit offered six different workshops in focused industry areas like Green Logistics and Solar Energy. The 2010 Southern California Transportation and Logistics Summit was a huge success with over 500 attendees! For more information or to view the PowerPoints presented at the Summit please visit http://leonard.csusb.edu.

4th Annual Leonard Transportation Forum

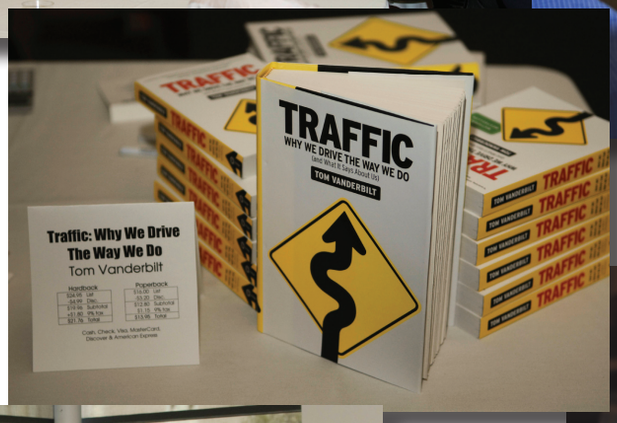
On Friday, May 14th, 2010, the Leonard Transportation Center hosted the Fourth Annual Leonard Transportation Center Forum. The theme of this year's forum was The Implementation of Visions for Regional Economic and Environmental Sustainability. This forum was the result of the year-long research done by our co-sponsors (the group of major universities within the Urbanization tier of the L.A. Metropolitan region and Southern California Association of Governments) focused on the intersection of transportation, land use, air quality and energy. The thrust of this program has been to investigate our own regional silo-like boundaries with the intent to develop an underlayment of knowledge and collaboration in support of our regional decision-making. Participation in this year's Forum included the likes of Southern California Edison, San Bernardino Association of Governments (SANBAG), The Planning Center and Caltrans.

2009 Jack R. Widmeyer Transportation Research Conference

The Leonard Transportation Center's Second Annual Research Conference named in honor of Jack R. Widmeyer was hosted on the campus of Cal State San Bernardino on November 5, 2009. The Annual Research Conference is the model outlet for interested parties to acquire information on the current research being funded by the Leonard Transportation Center. Those doing research for the Center were invited to present their findings to other researchers, faculty, students, industry professionals and those from public and private agencies. In conjunction with the Jack R. Widmeyer Tranportation Research Conference, the Leonard Transportation Center along with Cooper Carry and Omnitrans teamed up to compose an Educational Symposium discussing an open trialogue on intermodal transit stations, transit villages, and transit-oriented design titled "Going to San Bernardino?" Those who participated in the Research Conference included the City of San Bernardino, San Bernardino Association of Governments (SANBAG), Caltrans, Cal Poly Pomona and Cal Poly San Luis Obispo.

Speaker Series

On October 20, 2009 the Leonard Transportation Center welcomed Tom Vanderbilt, the national bestselling author of Traffic: Why We Drive the Way We Do to the campus of Cal State San Bernardino to speak to students about the mysteries and psychology of "why we drive the way we do." Tom's presentation titled Objects in the Mirror are More Complicated Than They Appear explained some of those lesser known facts like how road rage could be good for society and he answered some of life's age old questions like, Why does the other lane always seem to be going faster? Tom Vanderbilt was a great addition to the roster of Leonard Transportation Center Speakers and the Center hopes to continue championing transportation outreach to all students, faculty, researchers and other transportation professionals.



A Future for Simulators

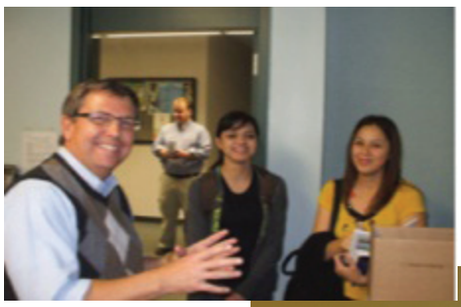
The Leonard Transportation Center is in talks with the University of Iowa's National Advanced Driving Simulator Center to bring six simulators to the campus of Cal State San Bernardino for commercial driver training and to research driving behaviors under various environmental and user factors that drivers face in California. Transit companies in the Inland Empire will have access to the simulators to train and screen their drivers. Some companies that are interested include Omnitrans, San Bernardino's local bus service and Pacific Tank Lines, a Riverside-based petroleum carrier. A driver training curriculum will be developed by the Leonard Transportation Center and will launch in the 2010-11 academic year. Faculty from the Cal State University system and the University of Iowa are encouraged to conduct research on Californian drivers using the Center's

"The growth in outreach of the Leonard Transportation Center is visible in every area of its mission. This year's tribute dinner to recognize William E. Leonard's contributions to transportation remind us all of the importance of passion for the field in favorably moving regional policy forward. Please participate annually in activities of the Center, including a speaker series, the transportation and logistics summit, the Leonard Transportation Center Forum, the I-10 Corridor Conference and the Jack R. Widmeyer Transportation Research Conference where faculty research is presented on grant activity sponsored by the Center. I look forward to the Widmeyer Research Conference in November this year because it will place CSUSB in an important lead role, launching a system-wide network of experts for state and federally funded transportation research projects. As Dean, it is also a delight to see scholarships being made available to students obtaining a Bachelor's Degree in transportation or supply chain management, because maintaining the "supply" of future industry leaders is critical. "

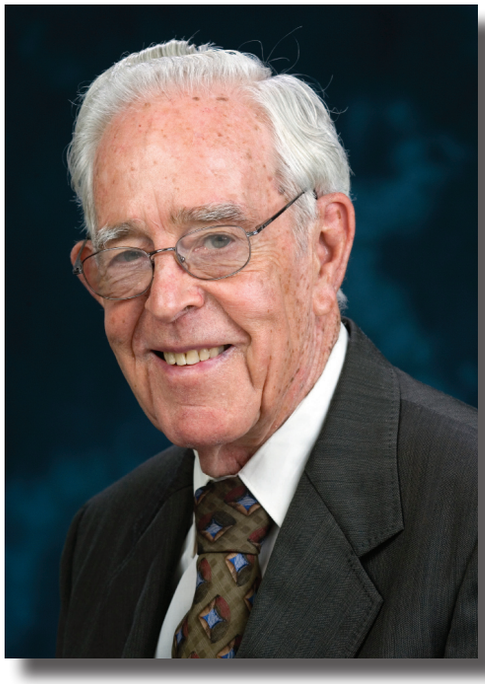
Dr. Karen Dill Bowerman
Dean, College of Business and Public Administration
CSU, San Bernardino

Farewell Rusty

The Leonard Transportation Center would like to thank its first Program Coordinator, G.C. "Rusty" Thornton, for his dedicated years of service. Rusty joined the Center in 2006 after serving 24 years with the California Department of Transportation (Caltrans). Rusty was the one responsible for the upbringing of the Center and the one who lead the Center into its fruition. Responsible for the coordination of events, preparing research grants, and the day to day office duties and with over two decades of transportation experience under his belt, it is safe to say that the Center would not be where it is today without his hard work and dedication. The Leonard Transportation Center is very thankful to have had such a qualified leader under its roof and would like to wish Rusty the best on his future endeavors.



William Leonard Tribute



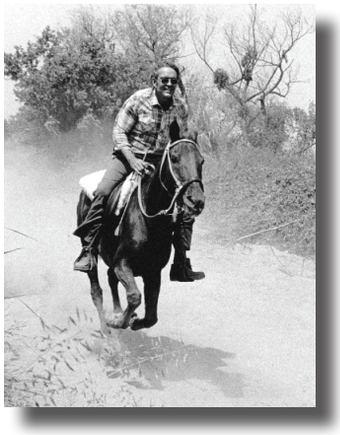
The Center is named after William and Barbara Leonard for their long-time support of the university as well as the couple's commitment to education and to transportation issues. The Leonard's, who have been staunch supporters of scholarships, direct a program through the First Presbyterian Church in San Bernardino, where they are members. More than $100,000 in scholarships has been awarded, much of it to Cal State San Bernardino.

Bill Leonard was involved in the early negotiations that led to the university being located in north Sam Bernardino. In the early 1960s, Leonard was a founding director of Inland Action Inc., a group of local business, government and education leaders, of which Cal State San Bernardino is an active participant.

Earlier in his career, Leonard was a real estate developer. His company subdivided land for development, rehabilitated houses, built seven parking lots in downtown San Bernardino and more than 50 units in apartment complexes. He also built the public golf course on South Waterman Avenue in San Bernardino.

A graduate of the University of California at Berkeley with a bachelor's degree in business administration, Leonard has also had a profound effect on transportation issues in the region. He served on the High Speed Rail Authority and served as a member and chairman of both the California Transportation Commission and the California Highway Commission and held another gubernatorial appointment to the State Athletic Commission. His service to the state was acknowledged when the interchange of State Route 210 and Interstate 15 was named the William E. Leonard Interchange.

Jack Widmeyer Tribute



After serving in WWII and graduating from Claremont Men's College, Jack followed in his father's footsteps and owned an insurance business in San Bernardino. When McDonalds' restaurant was established he was one of the first businessmen to purchase plans to build franchises, including locations in Azusa, Los Angeles and Riverside.

In 1958, Jack moved his insurance business to Highland Avenue in San Bernardino at the foot of Perris Hill, which he subdivided and developed to build several homes including one for his parents and one for his family. Jack also worked all over Southern California performing construction inspections.

He spent a good deal of time tending the family's Highland property that they fondly called "The Ranch" for its rural setting. His environmental instincts led him to create catch ponds and drainage systems to help preserve and maintain the land. Jack encouraged people to walk and hike on the Ranch.

Always keeping busy, Jack belonged to several community groups including the Chamber of Commerce. His fascination with horses drew him to equestrian activities and Jack became active in endurance riding throughout San Bernardino and Los Angeles counties. He was active in establishing trails in the area and serving as chair of the East Valley Trails Committee.

Jack was always looking for ways to improve public and private projects. When the cross-town freeway was being designed in the San Bernardino-Highland area, the original plans included a Highway 330/Highland Avenue interchange that would have blocked east-west pedestrian and equestrian access. Jack worked with Cal Trans to incorporate hiking and riding trail features, providing access – particularly in the creek bed area at the base of the road leading to Big Bear.

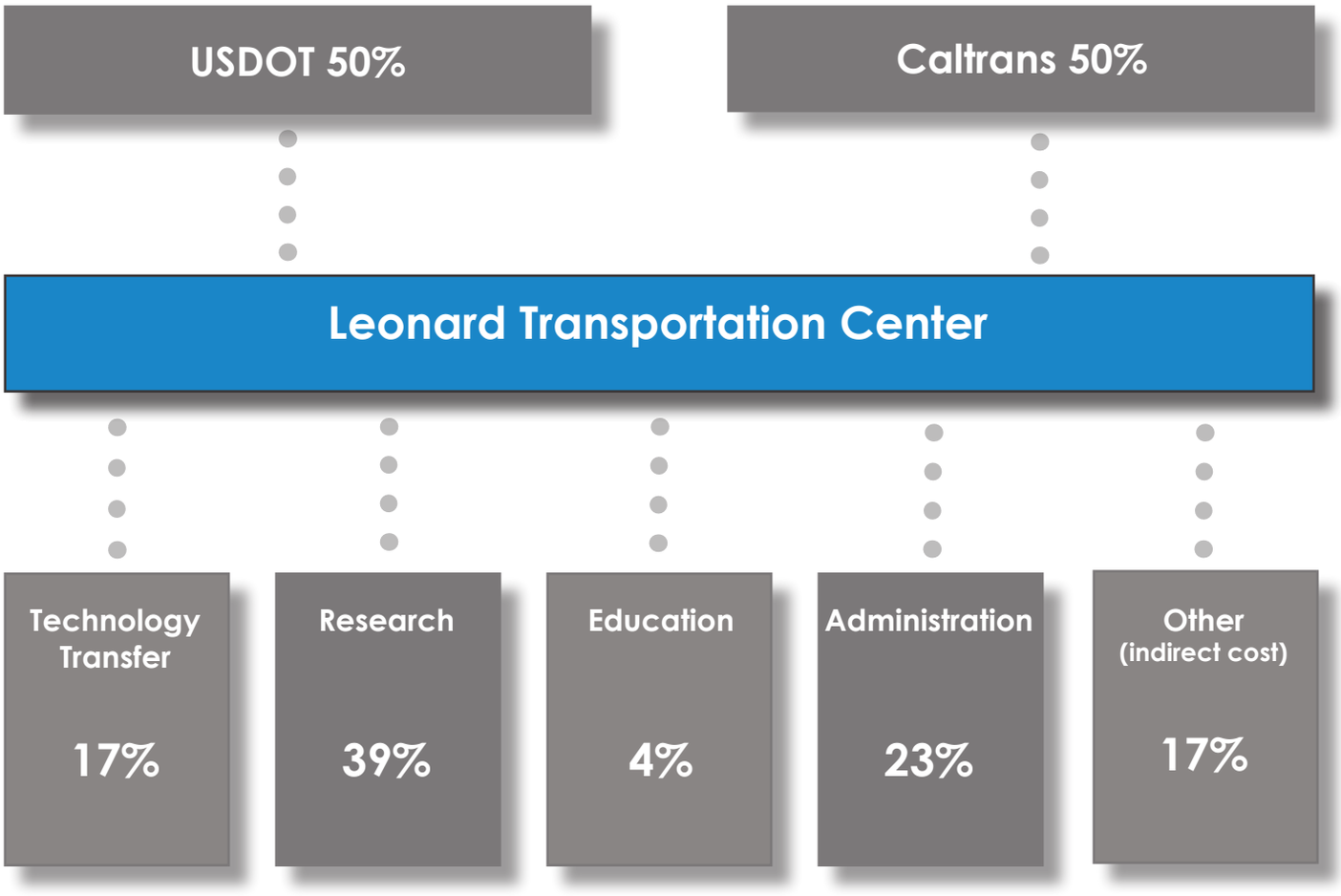
Jack also saw the need for a new, safer road up Waterman Canyon to Crestline in the San Bernardino Mountains, and contemplated many other highway improvements. His overall experiences and desire to improve the effectiveness of transportation projects, and the positive experience with the Highway 330 project, motivated Jack to develop a legacy plan for the future.

Jack set up several charitable remainder trusts for his adult children and his sister that eventually will benefit the William and Barbara Leonard Transportation Center at Cal State San Bernardino. Working with his professional advisors Jack cemented his plans before his death in May 2008. It was his wish that these planned gifts provide support for faculty research and professional conferences related to transportation at CSUSB.

Jack wanted California transportation systems to take advantage of available input and expertise to improve their effectiveness. He saw this contribution as an effective way to achieve this goal.

Funding Sources and Expenditures

In 2009-2010, the Leonard Transportation Center received a total of **$925,800** in grant funding.



The Leonard Transportation Center would like to thank RITA/DOT, Caltrans and the Foundation for CSUSB for all their support and funding.

Looking Forward

Transportation is an important driver for regional growth. With the rising concerns for the environment and quality of life, more stringent regulations on fuel efficiency and air quality, and consumer demands for more sustainable energy sources, the transportation sector is faced with many challenges.

We at the Leonard Transportation Center strive to be an "honest broker" of all issues related to transportation in the Inland Empire. Under the leadership of Bob Wolf, the chairmen of the Advisory Board and former California Transportation Commissioner, we will work closely with all Board members to engage in transportation policy analysis and development, research on policy alternatives, and identify various policy impacts on the economy, local employment, the environment, and quality of life. We understand that the transportation decisions we make today will have a profound and long lasting impact on the way we live tomorrow. We welcome these complex challenges and are actively engaging researchers, faculty, and students to build research and educational programs to address these concerns. The theme of the Center, the effectiveness and efficiency of decision-making and management of transportation systems, is precisely what we pursue. In the future, we plan to take initiatives for the following major programs to advance the decision making process in transportation planning:

Research:

- We will continue to host the Annual Jack R. Widmeyer Transportation Research Conference in the fall. We'd like to help develop a network of transportation experts at the CSU system.
- We will develop a research program using driving simulators from NADS.
- We will revamp the RFPs, application procedures, review standards, and performance reviews so that the research programs will be more coherent and rigorous. Our priority is to fund projects Caltrans deems important or urgent.

Education:

- We have revised the undergraduate curriculum in transportation and supply chain. We will start looking into the graduate curriculum and certificate training programs.
- We will develop ways to attract the best students to the field of transportation and supply chain and provide scholarships and internships for them. We will develop working relationships with community colleges and support their transportation related programs.

Knowledge transfer:

- We will continue to host the Southern California Transportation and Logistics Summit in the spring for the distribution and warehousing industry and the Transportation Forum in May for transportation policy discussions.
- As part of our digital campaign that aims to turn text-based knowledge into audio and video based files, we will populate our new iTunes U store with contents from our own research and conferences, our partners' conferences, and publishers' databases.
- We will finish the first steps of launching an academic journal for practitioners and officially launch it before the end of the year.

We set our goals high. We understand the journey there is challenging. But with competent staff, guidance from the Advisory Board, and our connections with local professional organizations and partners, we are confident that the Leonard Transportation Center will continue to play a vital part in regional transportation planning and become the champion in research and education in "decision making and management of transportation systems" in the Inland Empire, California and nationwide.

Leonard Transportation Center
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FY 2009-2009 Annual Report

William and Barbara Leonard Transportation Center

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